

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Sindo Kou
Jia-Jie He

Date: April 13, 2001

Docket No.: 032026:0546



For: **GROWING OF HOMOGENOUS CRYSTALS BY BOTTOM SOLID FEEDING**

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
Patent and Trademark Office
Washington, DC 20231

Dear Sir:

With respect to the examination of the accompanying application, applicants cite the following documents, copies of which are enclosed. These documents are also listed on an accompanying Form PTO-1449.

UNITED STATES PATENTS

<u>Inventors</u>	<u>Patent No.</u>	<u>Issue Date</u>
Hobgood, et al.	4,594,173	June 10, 1986
Matsumoto, et al.	4,645,560	Feb. 24, 1987
Morrison	4,654,110	March 31, 1987
Watanabe, et al.	4,668,481	May 26, 1987
Washizuka, et al.	4,686,091	Aug. 11, 1987
Kojima	4,734,267	March 29, 1988
Kawasaki	5,021,118	June 4, 1991
Yamashita	5,515,810	May 14, 1996
Yanagisawa, et al.	5,851,850	Dec. 22, 1998
Bliss, et al.	6,143,070	Nov. 7, 2000

OTHER DOCUMENTS

William G. Pfann, Zone Melting (Book). John Wiley & Sons, Inc., 1966, pp.

199-214.

I.R.W. Ware, "LEC Growth of Bulk $\text{In}_x\text{Ga}_{1-x}\text{As}$," Report ADA 297039, Defense Technical Information Center, Ft. Belvoir, VA, 1995.

Handbook of Crystal Growth 2 (Book), D.T.J. Hurle, Ed., North-Holland, Elsevier Science B.V., 1994, Chapter 2 (Bridgman and Related Growth Techniques), pp. 53-58.

M.H. Lin, et al., "Dopant Segregation in Crystal Pulling with Bottom Melt Replenishing," J. of Crystal Growth, Vol. 142, 1994, pp. 392-396.

Kazuo Nakajima, et al., "Constant Temperature LEC Growth of InGaAs Ternary Bulk Crystals Using the Double Crucible Method," J. of Crystal Growth, Vol. 169, 1996, pp. 217-222.

M.H. Lin, et al., "Czochralski Pulling of InSb Single Crystals from a Molten Zone on a Solid Feed," J. of Crystal Growth, Vol. 193, 1998, pp. 443-445.

J. He, et al., "A New Double Crucible Technique for LEC Growth of In-Doped GaAs Crystals," J. of Crystal Growth, Vol. 208, 2000, pp. 42-48.

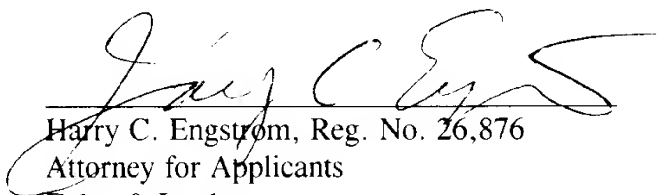
J. He, et al., "Double Crucible LEC Growth of In-Doped GaAs Using Inner Crucibles with a Bottom Tube," J. of Crystal Growth, Vol. 211, 2000, pp. 163-168.

REMARKS

The above-referenced documents primarily relate to Czochralski crystal growth processes and particularly to double crucible processes. Several of these references are discussed in the Background of the Invention section of the present application. The section of the book by Pfann generally discusses zone melting techniques. The section of the Handbook of Crystal Growth discusses Bridgman and related growth techniques including furnaces with separated heaters.

It is thus requested that the foregoing documents be considered during examination of the accompanying application and be specifically made of record therein.

Respectfully Submitted,

A handwritten signature in dark ink, appearing to read "Harry C. Engstrom", is written over a horizontal line.

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